



Fire Program Analysis – Preparedness Module Short White Paper

Date: September 3, 2003

Topic: Wildland Fire Management Appropriation Structure

Background: This document summarizes the Wildland Fire Management Appropriation structure of the two Departments, Interior and Agriculture. The source materials were the draft language from the budget justifications for fiscal year 2003.

Key Points:

Appropriation: Wildland Fire Management

For necessary expenses for fire preparedness, suppression operations, fire science and research, emergency rehabilitation, hazardous fuels reduction, and rural fire assistance by the Department of the Interior

A. Preparedness Activity - This activity provides safe, cost-effective fire management programs in support of land and resource management plans and activities through planning, staffing, training, and equipment. This activity includes the hiring and training of personnel; prevention and detection activities; deferred maintenance and capital improvements; purchase of and contracting for equipment, supplies, and support; planning and coordination; policy development and oversight; and interagency coordination and direction.

The DOI Wildland Fire Preparedness activity consists of three components:

- Readiness and Program Management,
- Joint Fire Science,
- Deferred Maintenance and Capital Improvement.

The Forest Service Fire Preparedness activity consists of four components;

- Planning,
- National Fire Management Analysis System,
- Geographical Allocation,
- Management and Accountability.

DOI - Readiness & Program Management:

Readiness fire resources are deployed in advance of fire emergencies based on an analysis of historic needs to ensure Interior bureaus' "readiness to respond" when fires occur. Program management resources include permanent and career seasonal professional and technical personnel who provide leadership, coordination, program planning and reviews, and technical and administrative support for fire and aviation management.

DOI - Joint Fire Science Program:

The JFSP provides support to Federal agency researchers and many university cooperators for developing information and tools for fuels management and fire use activities. JFSP is intended to assess fire behavior and post-fire effects, develop remote sensing applications, provide new tools to improve protocols for evaluating post-fire stabilization and rehabilitation, document the effectiveness of fuel

hazard reduction techniques, and determine effective means of disseminating information from the various research projects.

DOI - Deferred Maintenance and Capital Improvement:

This funding is for the construction of new wildland fire facilities, and major renovations of existing facilities to reduce critical health and safety risks at Interior facilities and on Interior lands. The funding is based on the Fire Five-Year Plan for Deferred Maintenance and Capital Improvements.

FS - Fire Planning:

Each National Forest maintains a fire management action plan that documents, 1) the fire management program identified in the Forest Land management plan and 2) the program actually implemented each year through the program development and budgeting process. The fire management program is a long-term strategic plan tiered directly from the direction taken from a land management plan. It guides the achievement of resource objectives through the use of wildfire. The annual implementation plan specifies the kind, number, location, timing, cost, and efficiency of fire management forces and activities at alternative budget levels.

FS - National Fire Management Analysis System:

The National Fire Management Analysis System (NFMAS) is the current analytical model used to identify the most economically efficient level of the fire management organization. Building on the knowledge that fire suppression costs are influenced by prevention, detection and initial attack capabilities, NFMAS identifies the fire management organization that can be implemented within the funding available. It models this level by projecting estimated fire suppression costs and net changes to natural resource values, for a range of scenarios associated with different levels of fire "preparedness" funding.

FS - Geographical Allocations:

The NFMAS model generates preparedness estimates for the national fire management organization based on minimizing the sum of suppression costs and natural resource value losses. The appropriated budget is allocated strategically among national, regional and local units. National resources, such as the airtanker fleet and hotshot crews, are resources primarily used to support large escaped wildland fires. Regional and local resources are used primarily in initial attack when fires are small.

Program allocations among the Regions are based on an annual cost-benefit analysis, which considers the value of the resources protected and the cost of the Region's fire management program. The geographical allocation of Preparedness funding is based on the annual optimization of program outcomes.

FS - Management and Accountability:

To ensure the validity and integrity of the planning and budgeting process, the Forest Service performs NFMAS Certification reviews of its Regions. The Forest Service also performs Fire and Aviation Management (FAM) Activity Reviews. These reviews are a comprehensive look at the FAM program and ensure that regional FAM programs are conducted according to agency standards. Fire review teams also examine the management controls and costs on selected large fires to ensure financial management and accountability. They also analyze the decision-making processes, values at risk, and compliance with land and resource management plans. Regions conduct financial oversight reviews on selected National Forests. These reviews ensure that planned costs, actual budgets, and fire protection requirements are aligned. Overhead costs and non-production related costs are also monitored through the review process. Additionally, the Washington Office conducts two Regional financial oversight reviews annually.

B. Activity: Suppression Operations - This activity funds the implementation of wildland fire suppression operations. Suppression operations include the total spectrum of management actions taken on wildland fires in a safe and cost-effective manner.

For DOI this activity consists of two sub-activities:

- Suppression,
- Fire Severity.

For the Forest Service this activity consists of three sub-activities:

- Suppression,
- Burned Area Emergency Rehabilitation (BAER),
- Fire Severity

DOI & FS - Suppression Funds:

Suppression costs to manage wildland fires include the extraordinary costs (overtime, hazard pay, etc.) incurred by fireline, command, and support personnel; all wages for temporary Emergency Firefighter personnel; fire suppression/monitoring aircraft flight operations and ramp support; logistical services for all employees assigned to incidents; suppression and monitoring supplies and equipment (including replacement of lost or damaged capital and expendable equipment); contracts for goods and services; administrative support directly associated with incidents; and immediate measures to rehabilitate resources damaged by fire suppression efforts.

DOI & FS - Fire Severity Funds:

Fire severity funds are suppression funds used to improve initial attack response capabilities when abnormal fire conditions occur. Abnormal fire conditions arise when fire seasons start earlier than normal, last longer than normal, or exceed average high fire danger ratings for prolonged periods. These funds are typically used to temporarily increase firefighting staffing, pay for personnel and equipment, pre-position suppression forces in areas of abnormally high fire danger; conduct additional aerial reconnaissance; and acquire other supplemental contractual services. The approval to use Operations funds for severity purposes is based on expected weather conditions, fuel conditions, and availability of resources.

FS - Burned Area Emergency Rehabilitation:

Wildfire often creates a hazardous environment that endangers natural and cultural resources, life, and property after the fire is extinguished. Burned Area Emergency Rehabilitation (BAER) actions may be needed to prevent or minimize unacceptable threats to life and property, erosion and loss of soil productivity, deterioration of water quality and downstream damage, changes to ecosystem structure and function, establishment of non-native invasive species, and degradation of cultural and natural resources. BAER funds are not directly appropriated but are taken from Wildland Fire Management – Operations Suppression funds when emergency rehabilitation is needed. BAER funds are approved on a per project basis. Activities may begin before the fire is out and can continue into subsequent fiscal years, if funds are obligated, and depending on how long it takes to complete contract(s). Burned Area Emergency Rehabilitation efforts must be taken quickly to minimize the consequences of a burn. Trained specialists are assigned to large burns to survey, plan, implement, monitor, and maintain rehabilitation treatments. Rehabilitation measures can be expensive, but only average about 5 percent of suppression costs.

Not all fires that occur on NFS lands are of the size, location, and severity that require emergency rehabilitation work. BAER program activity varies widely from year to year, depending on the severity and location of fires.

C. Activity: Other Operations -This activity funds the development and implementation of the four operational sub-activities of the Interior's wildland fire program:

- Emergency Stabilization and Rehabilitation,
- Hazardous Fuel Reduction,
- Rural Fire Assistance,
- Wildland Urban Interface.

This activity funds development and implementation of ten operational components of the Forest Service's wildland fire program:

- Hazardous Fuel Reduction,
- Fire Facilities,
- Rehabilitation and Restoration,
- Forest and Rangeland Research,
- Joint Fire Science,
- Forest Health Management - Federal Lands,
- Forest Health Management - Cooperative Lands,
- Economic Action Program,
- State Fire Assistance,
- Volunteer Fire Assistance.

DOI - Emergency Stabilization and Rehabilitation:

Emergency stabilization consists of traditional treatments to prevent further land and resource degradation immediately post-fire, and now allows for the replacement of minor facilities damaged or destroyed by fire. Rehabilitation now provides funds to begin implementing long-term programs to restore the health of ecosystems damaged by wildfire. Rehabilitation projects are principally focused on preventing the spread of noxious weeds, including cheatgrass in the Intermountain West, and in regenerating severely burned forests that are unlikely to recover naturally.

Emergency stabilization and rehabilitation projects must meet resource management objectives defined in land use plans. Rehabilitation costs include seeding of native vegetation or reforestation, ecosystem restoration to allow for natural regeneration, other watershed stabilization measures, actions to prevent the establishment of undesirable vegetative species, fencing to prevent animals or humans from entering sensitive areas, felling of damaged trees or mitigation of other threats to human safety, repair or replacement of minor facilities, actions to stabilize and prevent further degradation to archaeological and cultural resources, and monitoring to determine treatment efficacy. Damages from wildfire have also been increasing as a result of ecosystem changes and increased fuel weeds cause by invasive, highly flammable species such as cheatgrass and other noxious weeds.

DOI & FS - Hazardous Fuel Reduction:

This program includes planning, implementation, and support for fuel management activities, including inventorying fuel hazards, analyzing treatment alternatives, determining and applying appropriate fuel treatment methods, and monitoring and evaluating fuel treatment accomplishments. *For DOI the hazardous Fuel Reduction program applies only to agency lands outside of the wildland urban interface. (See also DOI Wildland Urban Interface Fuels program.)* Activities include prescribed fire, mechanical, and chemical treatments, and the construction of fuel breaks to protect, maintain, and enhance resources and reduce hazardous fuels. This program excludes treatment of fuels generated in conjunction with commodity production activities, such as timber stand improvement, fuels-type conversions, grazing, salvage logging, and slash disposal.

The principal objectives of hazardous fuel treatment are:

- Reduce the probability of high intensity fires, increase public and firefighter safety, improve protection of property, lower fire suppression costs, reduce impacts of smoke production, and increase forest and range health.
- Manage wildland fires, when appropriate, to achieve land and resource management objectives.

DOI - Rural Fire Assistance:

The Rural Fire Assistance program provides technical and financial support to fire departments throughout the Nation that protect communities with populations of less than 10,000. These local agencies are often the first line of defense in meeting the protection needs for wildland-urban interface areas threatened by wildfire. Assistance to volunteer fire departments is an important Federal role to help improve the effectiveness of fire protection on public lands, especially in the wildland-urban interface areas adjacent to Federal land boundaries. The National Interagency Fire Center in Boise, Idaho, provides training opportunities to a variety of groups and individuals. In addition, field offices work closely with rural fire districts in the areas of planning, training, equipment, and initial attack. The funding level is based on the number of volunteer fire departments and the level of training and equipment needs. This Activity is focused on improving preparedness and prevention capacity for communities near lands that are managed by the Department of the Interior.

DOI - Wildland Urban Interface Fuels:

This program includes planning, implementation, and support for fuel management activities, including inventorying fuel hazards, analyzing treatment alternatives, determining and applying appropriate fuel treatment methods, and monitoring and evaluating fuel treatment accomplishments; within the wildland urban interface. Emphasis is placed on projects where mitigation will reduce wildfire threats to community safety, their ecosystems and infrastructure and be accomplished on federal and non-federal land so as to extend greater protection to communities and the resources across the landscape upon which they depend. The program includes the cost of providing incentives, technical assistance, education and community action programs which encourage the reduction of wildfire risks to communities. Includes funding to conduct risk assessments and planning, implement projects, obtain necessary permitting, consultations, clearances and NEPA analysis to ensure mitigation actions are accomplished in an environmentally sound manner. Funds cannot be used for facilities. Wildland Urban Interface (WUI) community fuels treatments will involve local collaboration and partnerships involving Federal, State and local government agencies, political leaders, individuals and other stakeholders to assess and identify specific mitigation projects from the following applicable national priorities. The most immediate priority is reducing the wildfire risk to wildland urban interface communities.

FS - Fire Facilities:

The fire facilities program provides maintenance and capital improvement of the fire facilities infrastructure. Work includes renovations, rehabilitation, acquisition of buildings, and major site improvements to support fire fighting activities, as well as disposing of deteriorated or otherwise unneeded facilities. The program focuses on rehabilitating and upgrading wildland fire management facilities as an integral part of the agency's efforts to improve firefighting capabilities and readiness.

FS - Rehabilitation and Restoration:

The rehabilitation and restoration program restores forest and rangelands and protects communities from post-fire damage. This includes both short and long-term efforts to improve lands unlikely to recover naturally from wildland fire damage, or to repair or replace minor facilities damage by fire. Rehabilitation and restoration projects are in addition to emergency stabilization work authorized through BAER (Burned Area Emergency Restoration) and funded with fire suppression dollars.

The goal of the program is to rehabilitate and restore burned areas to closely match historical fire adapted ecosystem structure, function, diversity and dynamics. The program focuses on significantly burned areas in watersheds and may include some locations/sites outside the burned area. This provides for comprehensive restoration efforts that work to restore overall watershed conditions. A complete project consists of planning, consultation, design, contracting, and monitoring and evaluation for up to three years following control of the wildland fire.

Eligible projects are those in areas that burned later than FY 1999. Projects focus on restoring watershed function, including protection of soil, water resources, biological communities, and prevention of invasive species. Both biological and mechanical rehabilitation methods may be used to carryout a wide range of activities. These include: aquatic lake habitat restoration, abandoned mine restoration, developed recreation facility replacement, grazing management, heritage site restoration, insect & disease suppression, invasive plant treatment, land line location, planning, reforestation, road restoration, terrestrial habitat restoration, trail restoration, water sanitation systems, and watershed restoration.

FS - Forest and Rangeland Research:

The Forest Service Research & Development fire program provides products that support operations in the four key areas of the National Fire Plan: firefighting, rehabilitation, hazardous fuel reduction, and community assistance.

FS - Joint Fire Science:

The Joint Fire Science Program (JFSP) develops science-based, interagency approaches in fuels inventory and mapping, evaluation of fuels treatments, scheduling of fuels treatments, and monitoring of treatment effects. JFSP is an interagency program that is supported by matching funding in the Department of Interior, and is managed by a Governing Board with representatives from 5 Department of Interior (DOI) agencies and the FS. Demonstration sites and tools developed through the JFSP greatly improve the abilities of local managers and citizens to make site-specific decisions about fire protection.

FS - Forest Health Management - Federal Lands:

The Forest Health Management – Federal Lands program of the National Fire Plan, like its parent program funded through State and Private Forestry, provides for the detection, monitoring, evaluation, prevention, and suppression of forest insects, diseases and exotic plants on forestland managed by National Forest System (NFS), other Federal agencies, and Tribal governments. Specifically, funding for this program provided through the National Fire Plan will provide technical assistance to help manage and control invasive insects and diseases, and to evaluate forest and tree health after wildland fires. In FY 2003, emphasis will be placed on control, eradication and prevention of invasive species in areas at risk to wildland fires including the wildland urban interface.

FS - Forest Health Management - Cooperative Lands:

The Forest Health Management – Cooperative Lands program of the National Fire Plan, like its parent program funded through State and Private Forestry, provides for the detection, monitoring, evaluation, prevention, and suppression of forest insects, diseases and exotic plants on forestland owned by States, local governments, private organizations and private individuals. Specifically, funding for this program provided through the National Fire Plan will provide technical assistance to help manage and control invasive insects and diseases, and to evaluate forest and tree health after wildland fires. In FY 2003, emphasis will be placed on control, eradication and prevention of invasive species in areas at risk to wildland fires including the wildland urban interface.

FS - Economic Action Programs:

Economic Action Programs (EAP) facilitates and fosters sustainable community development, linking community assistance and resource management. Through EAP, communities organize, develop broad-based local action plans, and build sustainable solutions for economic, social, and environmental concerns and opportunities. These solutions help diversify, develop and expand opportunities and enterprises that build on and expand a community's capacity to deal with natural resource changes. Specifically this program emphasizes funding to local communities to identify, develop and expand economic opportunities related to historically underutilized materials, and wood removed through hazardous fuel reduction treatments. This program additionally funds projects that allow communities to add wildfire risk assessments and defensible space planning to their community action plans.

FS - State Fire Assistance:

State Fire Assistance program of the National Fire Plan is an extension of the parent program funded in State and Private Forestry. It provides critical resources to increase firefighting preparedness of state and local fire agencies and mitigate hazardous situations on non-Federal lands. Funds from the program provides technical and financial assistance to States for grants and agreements to improve initial attack capabilities, provide needed equipment, improve communications and training in their Incident Command systems, and wildland firefighting training. Funds also provide technical and financial support for fire planning and implementation of hazard mitigation projects. Hazard mitigation projects include fuel reduction, community hazard reduction and, supports nationwide wildland fire education programs such as FIREWISE.

FS - Volunteer Fire Assistance:

USDA Forest Service's Volunteer Fire Assistance program is a focused effort to address the needs of volunteer fire departments in the wildland-urban interface. The program provides technical and financial assistance through the States for grants and agreements with Volunteer Fire Departments to purchase equipment, provide training, and help organize new volunteer departments for improved protection of communities. States award the grants to wildland-urban interface communities with populations under 10,000, with emphasis on those at greatest risk from wildland fire. The program requires a 50/50 match of Federal funds.

**THE FIRE MANAGEMENT FUNDING STRUCTURE FOR THE
DEPARTMENTS OF THE INTERIOR AND AGRICULTURE (2002-2003)***

PROGRAM (Activities and Sub-activities)	BIA	BLM	FWS	NPS	FS
PREPAREDNESS (Components only - No Sub-activities):					
Readiness and Program Management	X	X	X	X	
Joint Fire Science	X	X	X	X	
Deferred Maintenance and Capital Improvement	X	X	X	X	
Planning					X
National Fire Management Analysis					X
Geographical Allocation					X
Management and Accountability					X
SUPPRESSION OPERATIONS and SUBACTIVITIES:					
Suppression Funds	X	X	X	X	X
Fire Severity Funds	X	X	X	X	X
Burned Area Emergency Rehabilitation (BAER)					X
OTHER OPERATIONS:					
Emergency Stabilization and Rehabilitation (ESR)	X	X	X	X	
Hazardous Fuel Reduction	X	X	X	X	X
Rural Fire Assistance	X	X	X	X	
Wildland Urban Interface Fuels	X	X	X	X	
Fire Facilities					X
Rehabilitation and Restoration					X
Forest and Rangeland Research					X
Joint Fire Science					X
Forest Health Management - Federal Lands					X
Forest Health Management - Cooperative Lands					X
Economic Action Programs					X
State Fire Assistance					X
Volunteer Fire Assistance					X

* There could be fundamental changes to the appropriation structure for the 2004 fiscal year.